

10/506862

- 26 -

Claims

1. Sol-gel process for producing a metal oxide particle which contains at least one target molecule containing halogen in which, starting from known metal oxide precursors, the said precursor and the said target molecule are used, characterized in that a polyhalogenated metal alkylalkoxy compound is additionally used in the said sol-gel process.
2. Sol-gel process for producing a metal oxide particle containing at least one halogen-containing target molecule as claimed in claim 1, comprising the steps
 - a) production of a mixture containing the target molecule and a polyhalogenated metal alkylalkoxy compound,
 - b) starting the sol-gel process with the metal oxide precursor,
 - c) adding the solution from a),
 - d) optionally further addition of the metal oxide precursor and
 - e) ending the sol-gel process.
3. Process as claimed in claim 2, characterized in that 90 to 10 % of the metal alkoxide precursor is used in step a) and 10 to 90 % of the metal oxide precursor is used in step d).
4. Process as claimed in one of the claims 1 to 3, characterized in that based on the initial amount of metal oxide precursor between 0.04 and 0.4 mol % polyhalogenated metal alkylalkoxy compound is used.
5. Process as claimed in one of the claims 1 to 4, characterized in that based on the initial amount of metal oxide precursor between 0.1 and 10 % by weight target molecule is used.
6. Process as claimed in one of the claims 1 to 5, characterized in that the halogen-containing target molecule is chlorinated or fluorinated.

7. Process as claimed in one of the claims 1 to 6, characterized in that the metal oxide is composed of B_2O_3 , Al_2O_3 , SiO_2 , ZrO_2 or TiO_2 or mixed oxides thereof.
8. Metal oxide particle obtainable by the sol-gel process as claimed in one of the claims 1 to 7.
9. Use of a particle as claimed in claim 8 as a label for biomolecules.
10. Use of a particle as claimed in claim 8 as a sunscreen agent.
11. Use of a particle as claimed in claim 8 as a toner.
12. Use of a particle as claimed in claim 8 as an insecticide.